

QUALITY CONTROL INSTRUMENTS

SETA TRI-GAUGE VISCOSITY COMPARATOR

22950-2

1 DESCRIPTION

The TRI-GAUGE is a simple viscosity comparator based on the falling ball principle. It provides a simple and quick comparison of viscosity between a small sample of oil (10 mL) and two reference oils chosen to define the limits. The oils can be transparent or opaque.

2 APPLICATION

The TRI-GAUGE is for use in engineering, motor maintenance, public transport garages, marine engine rooms and many other applications where a 'GO / NO-GO' test indicates suitability for continued service.

Viscosity is a good guide to the deterioration of lubricating oils due to such causes as crankcase dilution by diesel fuels and loss of lubricity by extended use or from contamination.

3 FILLING

Remove the stopper, fill the bore to the shoulder, place the nylon line (provided to produce an air path past the seal) about 2 cm into the bore and insert the stopper holding it firmly in position while the line is withdrawn.

4 OPERATION

1. Fill the left-hand bore with an oil of minimum acceptable viscosity and the right-hand bore with an oil of minimum acceptable viscosity. These reference oils may represent the $\pm 10\%$ values or any other asymmetric limits required and can remain in the Tri-gauge for subsequent tests with those limits.
2. Fill the centre bore with a sample of the oil to be tested.
3. Allow time (e.g. 10 minutes in a water bath) for the gauge and oils to temperature stabilise, then stand the Tri-Gauge with fill plug end downward on a flat surface. When all three balls are at the fill plug end of the bores, the Tri-Gauge is ready.
4. Quickly invert the device and stand it vertically on a level surface so that the balls descend again. The base deliberately tilts the scale face towards the operator so that a ball produces a bright spot in dark oils. Observe the order of descent.
5. If the centre ball reaches the bottom between the time of arrival of those in the left and right hand bores, the sample is acceptable, having a viscosity between the maximum and minimum limits. A slower ball indicates that the sample is more viscous, a faster ball, that it is less viscous.
6. After completion of the test, the centre (sample) bore and ball is cleaned and dried. The Tri-Gauge is then ready for the next test.

NOTE: The numbered scales are not normally read for a GO / NOGO test. They provide an indication of relative viscosity. When the first ball reaches the bottom, the graduation reached by the centre line of a later ball is a factor of relative viscosity. Using reference oils of known viscosities, that of an unknown oil can be closely approximated.

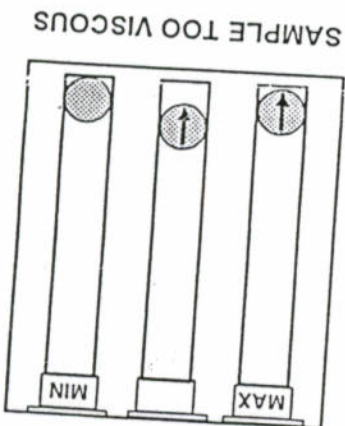
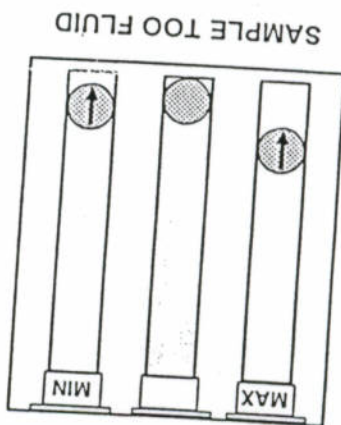
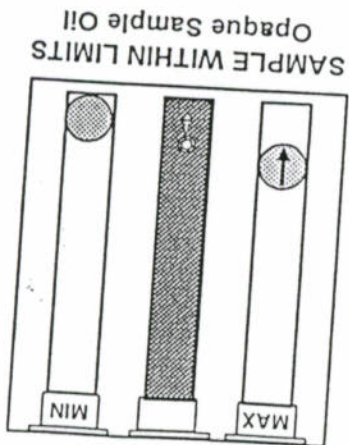
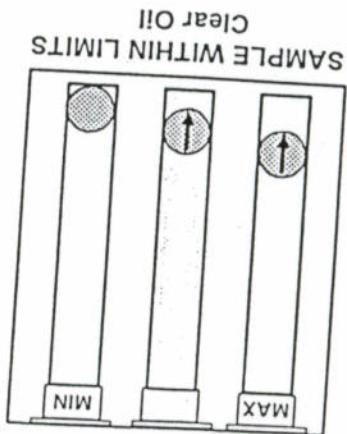
FOR REFERENCE ONLY

NOT FOR PRODUCTION



P/N 8819252.000

EXAMPLE RESULTS



RELATIVE VISCOSITY

